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Section II. (Amendments to the Specification)

Please replace paragraph [0047] of the specification as originally filed with the following replacement paragraph [0047]:

[0047] Figure 5 shows a gas-sensing assembly 50 comprising a support structure 52 with a planar supporting or mounting surface 54. The mounting surface 54 comprises two press-fit ~~pins 52~~ pins 55 for mounting the two electrical connection terminals 51A and 51B of the wishbone-shaped gas sensor element 51. In such manner, the gas sensor element 51 is mounted to the support structure 52 in a "vertical" manner, i.e., having its longitudinal axis 51C oriented perpendicular to or substantially perpendicular to the mounting surface 54 of the support structure 52.

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Section IV (Remarks)**Amendments To The Specification**

Although this issue was not identified in the September 21, 2005 Office Action, Applicants noticed that paragraph [0047] as originally filed contained multiple errors. The erroneous term "pints" has been corrected to "pins." Additionally, paragraph [0047] as originally filed identified two elements (i.e., "support structure" and "pints" (corrected herewith to "pins")) identified with the same reference number 52. Accordingly, the reference number corresponding to the pins has been changed to 55. No new matter within the meaning of 35 U.S.C. § 132 has been added.

Amendments To The Drawings

Consistent with the foregoing Amendments to the Specification, Applicants noticed that drawing sheet 2 as originally filed (inclusive of Figure 5) included two elements (i.e., support structure and pins) labeled with the same reference number 52. Accordingly, the reference number corresponding to the pins has been changed to 55. No new matter within the meaning of 35 U.S.C. § 132 has been added.

New Claims

New claims 39-41 all depend from claim 1 and claim further salient features of the invention. No new matter within the meaning of 35 U.S.C. § 132 has been added.

Allowable Subject Matter

In the September 21, 2005 Office Action, claims 10-17, 29 and 35-37 were objected to as being dependent upon a rejected base claim, but were indicated as being allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Since the base claims from which claims 10-17, 29 and 35-37 depend are in form and condition for allowance, so should be claims 10-17, 29 and 35-37 in their present form.

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Claim Rejections

In the September 21, 2005 Office Action, claims 1-9, 11-28, 30-34 and 38 were rejected on various grounds over various references and/or combinations thereof, including:

- a rejection of claims 1 and 23 under 35 USC §102(b), as being anticipated by Froger (U.S. Patent No. 3,464,269);
- a rejection of claims 2-8 under 35 USC §103(a), as being unpatentable over Froger (U.S. Patent No. 3,464,269);
- a rejection of claim 9 under 35 USC §103(a), as being unpatentable over Froger (U.S. Patent No. 3,464,269) in view of Hill (U.S. Patent No. 5,569,836);
- a rejection of claims 18-22 under 35 USC §103(a), as being unpatentable over Froger (U.S. Patent No. 3,464,269) in view of Wezurek et al. (U.S. Patent No. 6,202,472);
- a rejection of claims 24-25 and 33-34 under 35 USC §103(a), as being unpatentable over Froger (U.S. Patent No. 3,464,269) in view of Dimeo, Jr. et al. (U.S. Patent No. 6,265,222);
- a rejection of claims 26-28, 30-32 and 38 under 35 USC §103(a), as being unpatentable over Froger (U.S. Patent No. 3,464,269) in view of Dimeo, Jr. et al. (U.S. Patent No. 6,265,222) and further in view of Wezurek et al. (U.S. Patent No. 6,202,472).

These rejections are traversed, as detailed below.

Law relating to the rejections under 35 USC § 102(b), followed by a discussion of the disclosures of the cited art and traversal of the § 102(b) rejections, is provided below. Thereafter, law relating to the rejections under 35 USC § 103(a), followed by a discussion of the disclosures of the cited art and traversal of the § 103(a) rejections, is provided.

A. Rejections Under 35 USC § 102(b)

1. Law Regarding Rejections Under 35 USC § 102(b)

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In order for a §102(b) rejection of claims to be legally proper, the single cited reference must meet the criteria stated in MPEP §706.02, i.e., the cited reference:

“must teach every aspect of the claimed invention either explicitly or implicitly. Any feature not directly taught must be inherently present.” (MPEP §706.02, Rejection on Prior Art [R-1]).

The governing law of CAFC decisions is consistent with such MPEP standard:

“Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration.” *W.L. Gore & Assocs. v. Garlock*, 721, F.2d 1540, 220 USPQ 303 at 313 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). It is not enough that the prior art reference disclose all the claimed elements in isolation. Rather, “**anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim.**” *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (emphasis added). Further, “[u]nder 35 U.S.C. § 102, anticipation requires that ... the prior art reference must be enabling, thus placing the allegedly disclosed matter in the possession of the public.” *Akzo, N.V. v. United States Int’l Trade Comm’n*, 808 F.2d 1471, 1 USPQ2d 1241, 1245 (Fed. Cir. 1986).

2. Rejection of claim 1 under 35 USC § 102(b) as anticipated by Froger

Claim 1 was rejected under 35 USC § 102(b) as anticipated by US Patent No. 3,464,269 to Froger (“Froger”).

Froger discloses “a hot-wire device or anemometer for **measuring the speed of gaseous fluids** in circulation,” the inventive features including an electromagnet and blade adapted to periodically strike the carrier block associated with the anemometer to remove dust and particles accumulating on the detector filament. Froger, col. 1, lines 14-26. In a hot-wire anemometer, a

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detector filament is connected to a Wheatstone bridge supplied from an electrical current source and immersed in a flow of fluid (e.g., gas) of which the speed is to be measured. The passage of flowing gas over the hot filament cools the filament and consequently varies its electrical resistance, with a difference of electrical potential sensed by the Wheatstone bridge and taken as the value representing the speed of the gas flow. Froger, col. 1, lines 32-43.

Amended claim 1, which is directed to an elongated gas sensor element formed by one or more gas-sensing filaments, requires, *inter alia*, that the “one or more gas-sensing filaments are interactive with at least one predetermined target gas species to produce a signal indicative of any of presence and concentration of the at least one gas species.”

As noted previously, Froger is directed to a hot-wire anemometer for measuring the speed of gaseous fluids in circulation. Froger, col. 1, lines 14-26. The electrically-heated wire is placed into a gas flow path, and as gas flows over and cools the wire, the resistance of the wire changes and may be used to generate a signal indicative of gas *velocity*. Froger, col. 1, lines 32-43. Since it requires a flowing gas to generate a signal, the anemometer wire cannot distinguish between a stagnant gas environment or a vacuum chamber completely evacuated of gas. Moreover, the output signal from the anemometer depends entirely on flow, and cannot distinguish between different gaseous species. Thus, it is clear that the anemometer wire of Froger is not capable of producing any signal indicative of any of the presence or the concentration of a predetermined gas species, as required by claim 1.

Since Froger fails to disclose each and every element of claim 1, arranged as in the claim, as required to support a rejection under 35 USC §102, claim 1 cannot be anticipated by Froger. Withdrawal of the rejection under 35 USC § 102(b) rejection is respectfully requested.

3. Rejection of claim 23 under 35 USC § 102(b) as anticipated by Froger

Claim 23 was rejected under 35 USC § 102(b) as anticipated by Froger. Claim 23 depends from claim 1, and therefore includes all of the limitations of claim 1. Thus, claim 23 is patentably distinct over Froger for at least the reasons articulated hereinabove in connection with claim 1.

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Claim 23 includes additional limitations rendering it distinct from Froger. In particular, claim 23 requires that the longitudinal axis of the sensor element be **“substantially perpendicular to a line defined by the two electrical connection terminals thereof”** and that the gas sensor element be **“mounted on a support structure compris[ing] a surface for mounting the two electrical connection terminals.”**

This combination of features is best illustrated in Figure 5 (e.g., as amended and enclosed herewith), which illustrates two terminals 51A, 51B and the longitudinal axis 51C (vertical dashed line). A line between the two terminals 51A, 51B would extent horizontally across the width of Figure 5, perpendicular to the (vertical) longitudinal axis 51C. The advantages of this particular arrangement are identified in the following excerpt from paragraph [0046] of the specification:

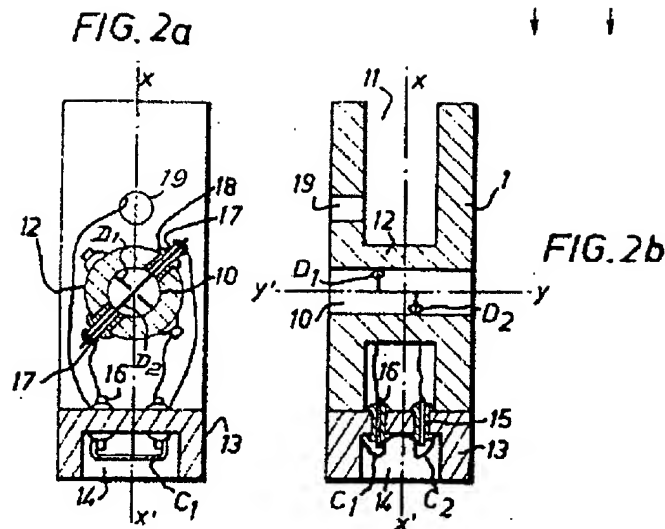
In order to minimize the surface area or footprint of the support structure, the gas sensor element of the present invention is arranged and configured so that its longitudinal axis is substantially perpendicular to the supporting or mounting surface of the support structure. In such manner, **the footprint of the support structure is reduced without affecting or comprising the L/D ratio of the gas sensor element.**

The examiner has asserted that Froger teaches an elongated gas sensor “wherein the longitudinal axis of the sensor element is substantially perpendicular to a line defined by the two electrical connection terminals thereof.” September 21, 2005 Office Action, page 2. Specifically, the examiner has asserted a lack of distinction between the preceding passage and the following characterization of Froger: the “filament carrier [is] constituted by an elongated block (1), the main axis of which is perpendicular to the axis of said central channel for the passage of the gaseous flow, said block having a groove along the main axis of said block, see: col. 7, lines 41-45.” September 21, 2005 Office Action, page 2.

The examiner has misapprehended the teaching of Froger relative to claim 23 of the instant application. Two cross-sectional views of a device according to Froger are provided below.

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Element 1 is the filament-carrier block, D_1 and D_2 represent the detector filaments, and element 10 is the cylindrical channel through which gas flows. "The detector filaments D_1 and D_2 are arranged along two adjacent diameters at right angles of the channel 10, and are fixed on the block 1 by welding on the metal sleeves 17 respectively inserted in the insulating bushings 18 fixed on the ring 12." Froger, col. 3, lines 27-31.

It is clear from the diagram and text reproduced above that the Froger's detector filaments D_1 and D_2 span across the entire hollow channel 10 (see Froger Fig. 2a above) and are welded along two opposing points at the periphery of the ring 12 defining the channel 10. These filaments D_1 and D_2 are not "mounted on a support structure compris[ing] a surface for mounting the two electrical connection terminals" as required by claim 23.

Compare Figure 5 of the instant application, which clearly supports claim 23 and shows the at least one sensor filament 51 mounted on a support structure comprising a surface for mounting two terminals 51A, 51B. This arrangement achieves the above-described advantage of reducing the footprint of the support structure without affecting or comprising the L/D ratio of the gas sensor element.

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Since Froger fails to disclose each and every element of claim 23, arranged as in the claim, as required to support a rejection under 35 USC §102, claim 23 cannot be anticipated by Froger. Withdrawal of the rejection under 35 USC § 102(b) rejection is respectfully requested.

B. Rejections Under 35 USC § 103(a)

I. Law Regarding Rejections Under 35 USC § 103(a)

Concerning §103 obviousness rejections, three requirements must be met for a *prima facie* case of obviousness. First the prior art reference(s) must teach all of the limitations of the claims. M.P.E.P. § 2143.03. Second, there must be a motivation to modify the reference or combine the teachings to produce the claimed invention. M.P.E.P. § 2143.01. Third, a reasonable expectation of success is required. M.P.E.P. § 2143.02. In addition, the teaching or suggestion to combine and the expectation of success must both be found in the prior art and not based on applicant's disclosure. M.P.E.P. § 2143.

In addition, a basic consideration, which applies to all obviousness rejections, is that references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination. MPEP 2141.02.

A showing of the suggestion teaching or motivation to combine the prior art references is an essential component of an obviousness holding. *See, e.g., Brown & Williamson Tobacco Corp. v. Phillip Morris Inc.*, 229 F.3d 1120, 11424-25, 56 USPQ2d 1456, 1459 (Fed. Cir. 2000). There must be some motivation and suggestion or teaching of the desirability of making the specific combination that was made by the applicant. *In re Dance*, 160 F.3d 1339, 1343, 48 USPQ2d 1635, 1637 (Fed. Cir. 1998); MPEP 2141.02. *See also In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988)(“teaching of references can be combined *only* if there is some suggestion or incentive to do so.”)(emphasis in original). Specificity is required: “[p]articular findings must be made as to the reason the skilled artisan with no knowledge of the claimed invention would have selected these components for combination in the manner claimed.” *In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed Cir. 2000).

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"A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984)." (emphasis in original; MPEP 2141.02).

Non-analogous art may only be combined under specific circumstances to support an obviousness rejection. As stated by the court in *In re Oetiker*, 24 U.S.P.Q.2d 1443, 1445 (Fed. Cir. 1992),

"[i]n order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either [1] be in the field of applicant's endeavor or, if not, then [2] be reasonably pertinent to the particular problem with which the inventor was concerned." (Numbers added for clarity.)

In determining whether prior art is "reasonably pertinent to the particular problem with which the inventor was concerned," the intended use is important and should under the circumstances be considered for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used. See MPEP 2173.05(g).

2. Rejection of claims 2-8 under 35 USC § 103(a) as obvious over Froger

Claims 2-8 were rejected under 35 USC § 103(a) as being obvious over Froger. Each of claims 2-8 depend from claim 1, and therefore include all of the limitations of claim 1. Thus, each of claims 2-8 require, *inter alia*, that the "one or more gas-sensing filaments are interactive with at least one predetermined target gas species to produce a signal indicative of any of presence and concentration of the at least one gas species."

As mentioned previously, Froger is directed to a hot-wire anemometer for measuring the speed of gaseous fluids in circulation. Since it requires a flowing gas to generate a signal, the anemometer wire cannot distinguish between a stagnant gas environment or a vacuum chamber completely evacuated of gas. Moreover, the output signal from the anemometer depends entirely

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on flow, and cannot distinguish between different gaseous species. Thus, it is clear that the anemometer wire of Froger is not capable of producing any signal indicative of **any of the presence or the concentration of a predetermined gas species**, as required by claim 1.

Since Froger fails to disclose "one or more gas-sensing filaments are interactive with at least one predetermined target gas species to produce a signal indicative of any of presence and concentration of the at least one gas species" as required by claim 1 and derivatively by claims 2-8, **Froger fails to teach all of the limitations of claims 2-8**. Therefore, Froger cannot support a *prima facie* case of obviousness pursuant to MPEP § 2143.03 and the instant obviousness rejection under 103(a) cannot stand. Withdrawal of the rejection of claims 2-8 is respectfully requested.

3. *Rejection of claim 9 under 35 USC § 103(a) as obvious over Froger in view of Hill*

Claim 9 was rejected under 35 USC § 103(a) as obvious over Froger in view of U.S. Patent No. 5,569,836 to Hill ("Hill"). Claim 9 requires the gas sensor element of claim 1, characterized by a wishbone shape.

Froger has been considered hereinabove. It has already been established that Froger fails to teach "one or more gas-sensing filaments [that] are interactive with at least one predetermined target gas species to produce a signal indicative of any of presence and concentration of the at least one gas species." The examiner further concedes that "Froger does not disclose a sensor characterized by a wishbone shape." September 21, 2005 Office Action, page 3.

Hill is directed to a **motor vehicle suspension testing apparatus and method**, and discloses the use of wishbone members 153, 154 in an automotive suspension pivotally attached to the ends of sensor arms 151, 152. The sensor arms 151, 152 are named as such because their rotation is sensed by sensors 160 and 161 that **measure the toe and track of the vehicle wheel**.

The reliance upon Hill to support the rejection of claim 9 is improper, since **Hill represents non-analogous art not in any way related to the subject matter of the instant claims**. Hill is directed to motor vehicle suspensions and have nothing to do with the sensing of gas. According

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to the Federal Circuit, to serve as a proper reference to support a claim rejection, the reference must either [1] be in the field of applicant's endeavor or, if not, then [2] be reasonably pertinent to the particular problem with which the inventor was concerned. In re Oetiker, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). Hill fails both prongs of this test. Motor vehicle suspensions have no relation to gas sensors; likewise, wishbone-shaped suspension arms have no relationship to the wishbone-shaped gas sensor of claim 9. The particular problems contemplated by Hill (e.g., improving the testing of vehicle suspensions) are similarly unrelated to the specific problems contemplated by Applicants (e.g., sensing presence and/or concentration of predetermined gas species, such as may be applied to semiconductor processing systems).

Again, to support a rejection under 35 USC § 103, the prior art reference(s) must teach all of the limitations of the claims. M.P.E.P. § 2143.03. Even if Hill were properly combined with Froger, which it is not, the combination would still not teach a gas sensor characterized by a wishbone shape and having one or more gas-sensing filaments [that] are interactive with at least one predetermined target gas species to produce a signal indicative of any of presence and concentration of the at least one gas species.

Since neither Froger nor Hill, whether alone or in combination, teach all of the limitations of claim 9, the obviousness rejection under 103(a) cannot stand pursuant to MPEP § 2143.03. Withdrawal of the instant rejection is respectfully requested.

4. Rejection of claims 18-22 under 35 USC § 103(a) as obvious over Froger in view of Wezurek

Claims 18-22 were rejected under 35 USC § 103(a) as obvious over Froger in view of U.S. Patent No. 6,202,472 to Wezurek et al. ("Wezurek").

Each of claims 18-22 depends, directly or indirectly, from claim 1, and therefore requires that the "one or more gas-sensing filaments are interactive with at least one predetermined target gas species to produce a signal indicative of any of presence and concentration of the at least one gas species." Claims 18-22 further require that the *gas-sensing filaments* comprise specific nickel-containing materials, such as a nickel-copper alloy (claim 18); a nickel-copper-aluminum alloy (claim 19); a nickel-copper-aluminum alloy further comprising one or more metals selected from

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the group consisting of Ti, V, Cr, Mn, Nb, Mo, Ru, Pd, Ag, Ir, and Pt (claim 20); and a porous coating of nickel or nickel alloy (claims 21-22).

Froger has been considered hereinabove. It has already been established that Froger fails to teach "one or more gas-sensing filaments [that] are interactive with at least one predetermined target gas species to produce a signal indicative of any of presence and concentration of the at least one gas species." The examiner further concedes that Froger does not disclose a nickel-copper alloy. September 21, 2005 Office Action, page 4.

Wezurek is directed to a gas sensor with a flashback barrier permeable to the gas to be measured between the measuring space and an otherwise gas-impermeable housing of the sensor.

Wezurek, col. 1, lines 4-7. Wezurek has been cited for disclosing:

"the arrangement of a plurality of individual, flexurally rigid **fabric layers made especially of metals for a flashback barrier for explosion-proof gas sensors**, which are permeable to the gas being measured. The suitable metals include steel, CrNi alloys, pure nickel, MONEL ... copper, Al alloys, titanium, or precious metals, individually or combined."

September 21, 2005 Office Action, page 4 (emphasis added). The flashback barrier 2 composed of metal fabric layers 9 is distinct from the measuring elements 5. E.g., Wezurek, col. 3, lines 44-64 & claims 7, 14. "The measuring elements 5 are either pellistors, semiconductor elements, heat conduction elements, optoelectronic, or other gas-sensitive electronic components." Wezurek, col. 3, lines 54-57.

Again, to support a rejection under 35 USC § 103, the prior art reference(s) must teach all of the limitations of the claims. M.P.E.P. § 2143.03. It has already been established hereinabove that Froger fails to teach "one or more gas-sensing filaments [that] are interactive with at least one predetermined target gas species to produce a signal indicative of any of presence and concentration of the at least one gas species." Wezurek fails to remedy Froger's lack of disclosure in this regard.

As to the further requirement in claims 18-22 of *nickel-containing filament materials*, the Examiner concedes that Froger fails to provide the necessary teaching, and Wezurek likewise

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falls short since it is silent about any "filament" – let alone a filament comprising the specific nickel-containing materials specified in claims 18-22.

Since neither Froger nor Wezurek, whether alone or in combination, teach all of the limitations of claims 18-22, the obviousness rejections under 103(a) cannot stand pursuant to MPEP § 2143.03. Withdrawal of the instant rejections is respectfully requested.

5. Rejection of claims 24-25 and 33-34 under 35 USC § 103(a) as obvious over Froger in view of Dimeo, Jr.

Claims 24-25 and 33-34 were rejected under 35 USC § 103(a) as obvious over Froger in view of U.S. Patent No. 6,265,222 to Dimeo, Jr. et al. ("Dimeo").

Froger has been considered hereinabove in connection with claim 1 and claim 23. Claims 24-25 and 33-34 each depend (indirectly) from claim 1 and claim 23, and therefore include all of the limitations of claims 1 and 23. Thus, the previous discussion of Froger in connection with claims 1 and 23 is equally applicable to the present claims and is hereby incorporated by reference.

Dimeo is directed to a micro-machined thin film hydrogen gas sensor formed by deposition (e.g., metalorganic chemical vapor deposition or physical vapor deposition) of a sensor film on a micro-hotplate structure to yield a solid-state device. E.g., Dimeo, Abstract; col. 5, lines 50-65; col. 3, line 66 – col. 4, line 4. Dimeo has been cited for teaching, *inter alia*, the presence of "an electrical resistivity monitor communicating by signal transmission line 48 with the hydrogen sensor device, to monitor the change in electrical resistivity of the film element incident to the introduction of hydrogen in contact with the hydrogen sensor device 10, and to responsively generate a corresponding output signal". September 21, 2005 Office Action, page 5.

Again, to support a rejection under 35 USC § 103, **the prior art reference(s) must teach all of the limitations of the claims**. M.P.E.P. § 2143.03. It has already been established hereinabove that Froger fails to teach "one or more gas-sensing filaments [that] are interactive with at least one predetermined target gas species to produce a signal indicative of any of presence and concentration of the at least one gas species." Dimeo fails to remedy Froger's lack of disclosure

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in this regard. To begin with, Dimeo teaches a *thin-film* sensor, not a sensor according to the claims having one or more gas-sensing *filaments*.

Since neither Froger nor Dimeo, whether alone or in combination, teach all of the limitations of claims 24-25 and 33-34, the obviousness rejections under 103(a) cannot stand pursuant to MPEP § 2143.03. Withdrawal of the instant rejections is respectfully requested.

6. Rejection of claims 26-28 and 30-32 under 35 USC § 103(a) as obvious over Froger in view of Dimeo, Jr. and further in view of Wezurek

Claims 26-28 and 30-32 were rejected under 35 USC § 103(a) as obvious over Froger in view of Dimeo and further in view of Wezurek.

Claims 26-28 and 30-32 depend indirectly from claim 1; therefore, each of claims 26-28 and 30-32 include all of the limitations of claim 1.

Froger has been considered hereinabove in connection with claim 1 and claim 23. Claims 26-28 and 30-32 each depend from claim 1 and claim 23, and therefore include all of the limitations of claims 1 and 23. Thus, the previous discussion of Froger in connection with claims 1 and 23 is equally applicable to the present claims and is hereby incorporated by reference.

Each of Dimeo, and Wezurek has been considered hereinabove in connection with claim 1 or claims derivative therefrom. It has been established that neither of these references teaches "one or more gas-sensing filaments [that] are interactive with at least one predetermined target gas species to produce a signal indicative of any of presence and concentration of the at least one gas species" as required by claim 1, and derivatively by claims 26-28 and 30-32. Since none of these references teaches this limitation individually, nor can any combination of the references remedy their individual deficiencies.

Accordingly, since the prior art reference(s) must teach all of the limitations of the claims to support a rejection under 35 USC § 103, the instant rejection of claims 26-28 and 30-32 cannot stand pursuant to MPEP § 2143.03. Withdrawal of the instant rejections is respectfully requested.

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7. Rejection of claim 38 under 35 USC § 103(a) as obvious over Froger in view of Dimeo, Jr. and further in view of Wezurek

Claim 38 was rejected under 35 USC § 103(a) as obvious over Froger in view of Dimeo and further in view of Wezurek.

Froger has been considered hereinabove in connection with claims 1 and 23, and each of Dimeo, and Wezurek has been considered hereinabove in connection with claim 1 or claims derivative therefrom. It has been established that neither of these references teaches "one or more gas-sensing filaments [that] are interactive with at least one predetermined target gas species to produce a signal indicative of any of presence and concentration of the at least one gas species."

Claim 38 contains limitations similar to those of claim 23, as it requires, *inter alia*:

a nickel-containing gas sensor element mounted on a surface of a support structure having a longitudinal axis that is oriented perpendicular to or substantially perpendicular to the mounting surface of the support structure, and being interactive with the target fluoro gas species; and

means, coupled to the sensor element, for detecting a change in at least one property of said gas sensor element upon contact of the gas sensor element with the target fluoro gas species and responsively generating an output signal indicative of any of the presence and the concentration of said target fluoro gas species

It has previously been established in connection with the discussion of claim 23 that Froger fails to disclose or suggest any gas sensor element mounted on a surface of a support structure having a longitudinal axis that is oriented perpendicular to or substantially perpendicular to the mounting surface of the support structure. Dimeo and Wezurek do not remedy the failure of Froger's disclosure in this regard.

Froger fails to teach or suggest the sensing of and providing an output signal indicative of any of presence and concentration of any gas, let alone of a fluoro gas.

Dimeo is specifically directed to sensing **hydrogen** and fails to teach or suggest sensing of and providing an output signal indicative of any of presence and concentration of a **fluoro** gas.

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Wezurek's disclosure of nickel-containing fabric for use as a flashback barrier provides no derivative basis for a sensor element itself comprising nickel.

Accordingly, since the prior art reference(s) must teach all of the limitations of the claims to support a rejection under 35 USC § 103, the instant rejection of claim 38 cannot stand pursuant to MPEP § 2143.03. Withdrawal of the instant rejection is respectfully requested.

C. Fee Payable For Added Claims

By the present Amendment, Applicants have added 3 dependent claims. The fee for such added claims [calculated as $(3 \times \$50 =) \150 under 37 CFR 1.16(h)] is hereby authorized to be charged to the credit card specified in the Credit Card Payment Form PTO-2038 enclosed herewith. Any deficiency is hereby authorized to be charged to Deposit Account No. 08-3284 to effect entry of this Response.

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